

Claims

1. In a data transmission system employing hybrid automatic retry request (HARQ), a method for transmitting data to multiple users over a single data channel, the method comprising the steps of:
 - selecting a user that owns a current time slot based on a status of each individual user's queue;
 - communicating ownership of the time slot to the user that owns the current time slot over a Forward Dedicated Control Channel (F-DCH);
 - communicating an first and/or a second channel state to the user;
 - performing HARQ transmission to the user over the data channel based on the status of each individual user's queue and the channel state.
2. The method of claim 1 wherein the step of selecting the user that owns the current time slot based on the status of each individual users queue comprises the step of selecting the user that owns the current time slot based on a combined queue.
3. The method of claim 1 wherein the step of communicating the first and/or the second channel state to the user comprises the step of communicating an even or an odd channel state to the user.
4. In a data transmission system employing hybrid automatic retry request (HARQ), an apparatus comprising:
 - a plurality of source transmitters each performing HARQ transmissions to a plurality of destination devices over a single data channel, the plurality of source transmitters comprising:
 - a first HARQ transmitter;
 - a second HARQ transmitter coupled to the first HARQ transmitter; and
 - a system scheduler that selects a user that owns a current time slot based on a status of each individual user's queue and performs HARQ transmission via the first or the second HARQ transmitter to a destination device over the single data channel based on a status of each individual user's queue and a channel state.
5. The apparatus of claim 4 wherein the system scheduler selects the user that owns the current time slot based on a combined queue.

6. The apparatus of claim 4 wherein the first HARQ transmitter is an odd HARQ transmitter, the second HARQ transmitter is an even HARQ transmitter, and HARQ transmission via the first or the second HARQ transmitters takes place via the odd or the even HARQ transmitter.

7. In a data transmission system employing hybrid automatic retry request (HARQ), an apparatus comprising:

means for selecting a user that owns a current time slot based on a status of each individual user's queue;

means for communicating ownership of the time slot to the user that owns the current time slot over a Forward Dedicated Control Channel (F-DCH);

means for communicating an even or an odd channel state to the user;

means for performing HARQ transmission to the user over the data channel based on the status of each individual user's queue and the channel state.